Amendments to the Claims

Please cancel Claims 27-30. Please amend Claims 15, 16, 17, 20-23, 32 and 33. Please add new Claim 34. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing

1. (Previously Presented) A method of treating degenerative disc disease in an intervertebral disc having a nucleus pulposus, comprising administering autologous uncultured mesenchymal stem cells into a degenerated intervertebral disc.

2. (Original) The method of Claim 1, wherein the cells are concentrated prior to being administered into the intervertebral disc.

3. (Original) The method of Claim 2, wherein the cells are concentrated by centrifugation.

4. (Original) The method of Claim 2, wherein the cells are concentrated by filtration.

5. (Canceled)

6. (Previously Presented) The method of Claim 1, wherein the cells are administered to the disc using a carrier, wherein the carrier is selected from the group consisting of beads, microspheres, nanospheres, hydrogels, gels, polymers, ceramics, collagen and platelet gels.

7. (Previously Presented) The method of Claim 1, wherein an additional therapeutic agent is administered into the intervertebral disc, and wherein said additional therapeutic agent is TGF-β.

Claims 8.-10. (Canceled)

11. (Previously Presented) The method of Claim 7, wherein the TGF-β and the cells are administered into the intervertebral disc using a carrier, wherein the carrier is selected from the group consisting of beads, microspheres, nanospheres, hydrogels, gels, polymers, ceramics, collagen and platelet gels.

12. (Previously Presented) The method of Claim 7, wherein the TGF-β is administered simultaneously with administering the cells to the disc.

13. (Previously Presented) The method of Claim 7, wherein the TGF-β is administered prior to administering the cells to the disc.

14. (Previously Presented) The method of Claim 7, wherein the TGF-β is administered after administering the cells to the disc.

15. (Currently Amended) The method of Claim 1, wherein the cells are administered into the intervertebral disc in a formulation with a volume of between ~~about~~ more than 0.5 ml and about ~~10 ml~~ 3.0 ml.

16. (Currently Amended) The method of Claim [[11]] 15, wherein the carrier comprises a hydrogel.

17. (Currently Amended) The method of Claim [[11]] 15, wherein the carrier comprises microspheres.

18. (Canceled)

19. (Canceled)

20. (Currently Amended) The method of Claim [[11]] 15, wherein the cells are administered into the nucleus pulposus of the disc.

21. (Currently Amended) The method of Claim [[11]] 15, wherein the cells are administered into the annulus fibrosus of the disc.

22. (Currently Amended) The method of Claim [[1]] 15, wherein a portion of the nucleus pulposus is removed prior to administering the cells into the intervertebral disc.

23. (Currently Amended) The method of Claim [[1]] 15, wherein the cells are administered through a needle.

24. (Previously Presented) The method of Claim 23, wherein the needle bore has a maximum gauge of about 24 gauge.

Claims 25.-30. (Canceled).

31. (Original) The method of Claim 1, wherein the formulation is administered in an amount of less than about 1 ml.

32. (Currently Amended) A method of treating degenerative disc disease in an intervertebral disc having a nucleus pulposus, comprising administering a growth factor in the TGF-β superfamily and autologous uncultured mesenchymal stem cells embedded in collagen gel into a degenerated intervertebral disc in a formulation with a volume of between more than 0.5 mL and about 3.0 mL.

33. (Currently Amended) A method of treating degenerative disc disease in an intervertebral disc having a nucleus pulposus, comprising administering autologous uncultured mesenchymal stem cells into a degenerated intervertebral disc immediately following harvesting of the autologous uncultured mesenchymal stem cells in a formulation with a volume of between more than 0.5 mL and about 3.0 mL.

34. (New) The method of Claim 1, wherein the cells are provided intra-operatively to a patient following harvest from the patient.